FIRE HYDRANTS

ITEM 2715

PART 1 - GENERAL

DESCRIPTION (Sec. 01) - The work specified in this Section shall consist of furnishing and installing complete Fire Hydrants from the water main including watch valves, heavy duty valve boxes and covers and all necessary appurtenances for complete hydrant installation as indicated.

SUBMITTALS (Sec. 02)

A. The Contractor shall submit the manufacturer's catalog data Shop Drawing for approval.
B. The Contractor shall submit the manufacturer's certification that materials meet or exceed specification requirements.

PART 2 PRODUCTS

CAST IRON: (Sec. 03) - Shall conform to ASTM A-126, Class B and shall be uniform, sound, tough, close-gained and soft enough to be satisfactorily cut and drilled. Castings shall be smooth without lumps, core swells, scales, blisters, and sand holes, cracks, shrinkage strains, cold shuts and other defects and imperfections which may impair their strength or render them unsightly or otherwise unfit for use in construction. Plugging or filling will not be allowed.

PRODUCTS: (Sec. 04)

A. Fire hydrants shall be Mueller Company Super Centurion, A-423.
B. Fire hydrants shall be of the compression type, closing with pressure, hydrants shall open counter clockwise. Work and materials shall be in compliance with AWWA C502.
C. Standard assembly of hydrant shall measure a minimum of 28 1/2 inches from ground line to top of operating nut. Maximum height shall not exceed 32 inches from finish grade.

DRAIN VALVES: (Sec. 05) - Shall consist of at least two openings. Drainage areas shall be of bronze or a combination of bronze and rubber.

GROUND LINE CONNECTION: (Sec. 06) - Hydrants provided shall have a ground line breakaway feature to prevent damage to nozzle section in case of accident. Ground line connection shall be designed so as to allow rotation of the nozzle section to any degree with a total of 360^0 ground line connection to consist of four segments which bolt together. Lower barrel shall be ductile iron with inside diameter not less than 7 inches.

NOZZLES: (Sec. 06) - Fire hydrants shall have two 2 1/2 inch nozzles and one 4 inch pumper nozzle, "Mueller" type as follows:

A. The two 2 1/2 inch nozzles and one 4 inch nozzle shall be threaded to meet Standard Canal Winchester "Screw Threads and Gaskets for Fire Hose Coupling".

B. Nozzle threads shall have a blunt start known as "Higbee Cut".

C. The steamer nozzle shall include a 5" stortz fitting with a blind cap lanyard, as approved by the local Fire Department.

OPERATING STEM: (Sec. 07) - Shall be a two section square steel rod to conform to ASTM A-107 with a breakable coupling at the ground line. Breakable stem coupling shall be designed so as to readily break in case of accidents, yet shall be strong enough to withstand above normal operating torque.

ANTI-FRICTION THRUST BEARING: (Sec. 08) - Shall be as recommended by manufacturer.

MAIN VALVE: (Sec. 09) Opening for hydrants shall be 5 1/4 inches. Main valve rubber shall be solid molded type or synthetic rubber. Main valve seat shall be bronze and screwed into a bronze retainer ring. The main valve assembly shall be removable through the top of the hydrant using a small wrench which engages the top portion of the operating stem.

CAPS: (Sec. 10) Nozzles shall be provided with cast iron caps screwed on and attached to the nozzle section by means of individual standard iron chains.

OPERATING NUTS: (Sec. 11)

A. Pentagon Operating Nut of hydrant shall be Standard 1 1/2 inches point to flat.
B. Dome Bonnets shall be cast iron.

BEDDING: (Sec. 12) Shall be stone or gravel conforming to the requirements of Ohio DOT Specifications Section 703, Type No. 67.

PART 3 - EXECUTION

FIRE HYDRANTS: (Sec. 13) Shall be installed in accordance with the manufacturer's recommendations and as indicated. Pumper nozzle shall face roadway.

PAINTING: (Sec. 14) The inside, and outside of the hydrants, and the working parts except those of bronze, shall be covered with two coats of approved asphaltum paint. The asphaltum paint shall be applied to the ground line on the outside of the hydrant. Hydrants shall be covered with one coat of primer and two coats of approved paint above the ground line. The domes and the barbell of the hydrant shall match existing hydrant color standard. The outside of each fire hydrant shall conform to the standard Canal Winchester colors.

TESTING: (Sec. 15) Fire hydrants shall be tested for ease of operating and drainage parts shall be tested for speed and efficiency in draining the hydrant barrel. Fire hydrants shall be pressure tested at 200 psi using water or air pressure. Visual inspection shall be made of cast parts for sand holes, welds, and plugs, and those that are bad will be rejected. Direction of opening and size of operating nuts shall be checked.

BACKFILLING, Excavation, and thrust blocks shall be as shown on the drawings.

PART 4 - MEASUREMENT AND PAYMENT

PAYMENT: (Sec. 16) Payment shall be for each hydrant complete, including all pipe, valves, stortz fitting, extensions and other appurtenances necessary to construct the fire hydrant from the main waterline whether or not shown on the drawings.